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INTERLEUKIN-4 EXPRESSION IN PATIENTS WITH SEVERE SEPSIS

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BACKGROUND: Sepsis is a complicated syndrome in which pro-inflammatory and anti-inflammatory cytokines are expressed simultaneously. However, the expression of interleukin (IL)-4 and IL-4δ2 is still unclear in patients with severe sepsis.

PATIENTS AND METHODS: By nested reverse transcriptase-polymerase chain reaction and the expression of glyceraldehydes-3-phosphate dehydrogenase as internal reference, the expression levels of IL-4 and IL-4δ2 were determined in 76 patients with severe sepsis. Plasma IL-4 levels from day 1 to day 7 were measured in septic patients by enzyme-linked immunosorbent assay.

RESULTS: The IL-4 mRNA expression in survivors was significantly higher than that in those who died. The IL-4δ2 expression did not differ between survivors and non-survivors. The expression of IL-4δ2 mRNA was positively correlated with that of IL-4 mRNA in patients with severe sepsis. The plasma IL-4 levels in septic patients from day 1 to day 7 did not differ between survivors and non-survivors.

CONCLUSIONS: The IL-4 may have a protective role in patients with severe sepsis, and might be considered as a therapeutic agent for the treatment of sepsis.

Key words: interleukin-4, interleukin-4delta2, sepsis